REMARKS/ARGUMENTS

Reconsideration and withdrawal of the rejections of the application are respectfully requested in view of the amendments and remarks herewith, which place the application into condition for allowance. The present amendment is being made to facilitate prosecution of the application.

I.   STATUS OF THE CLAIMS AND FORMAL MATTERS

Claims 1-69 are pending. Claims 1, 25, 50 and 60 are independent. Claims 1, 2, 25, 26, 50, 51, 60 and 61 are hereby amended. Support for this amendment is provided throughout the Specification, as originally filed and specifically at page 17, line 19 - page 18, line 4. No new matter is added by these amendments. Changes to claims are not made for the purpose of patentability within the meaning of 35 U.S.C. §101, §102, §103, or §112. Rather, these changes are made simply for clarification and to round out the scope of protection to which Applicant is entitled.

The Office Action raised an issue related to the phrase "the resultant coefficient" in claim 1. Applicant has amended the claims that contained this phrase, thereby obviating the issue.

II.   REJECTIONS UNDER 35 U.S.C. §103

Claims 1-69 were rejected under 35 U.S.C. §103(a) as allegedly unpatentable over U.S. Patent No. 6,061,793 to Tewfik et al. (hereinafter, merely "Tewfik").

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III.   RESPONSE TO REJECTIONS

Claim 1 recites, *inter alia*:

"...a shift and addition step of damping and shifting the
orthogonal transform coefficient in the direction of the
frequency axis and adding additional information to the
original orthogonal transform coefficient,

wherein the shift step and addition step generates the
additional information by performing inverse orthogonal
transform to a predetermined number of orthogonal
transform coefficient." (emphasis added)

As understood by Applicant, Tewfik relates to a technique for hiding of data,
including watermarks, in human-perceptible sounds. In one embodiment, a method comprises
three steps. In the first step, data to be embedded is inputted. In the case of a watermark, this
data is a unique signature, and may be a pseudo-noise (PN) code. In the case of hidden data to
be embedded in the host data, this data is the hidden data itself, or the hidden data as spread
against the frequency spectrum by a pseudo-noise (PN) code. In the second step, the inputted
data is embedded within the host data, in accordance with a perceptual mask of the host data.
The perceptual mask determines the optimal locations within the host data to insert the inputted
data. In the case of sounds, these optimal locations are determined by reference to the human
auditory system. In the third step, the host data, with the embedded data, is further masked by a
non-frequency mask. In the case of audio data, the non-frequency mask is a temporal mask.

Applicant submits that nothing has been found in Tewfik that would teach or
suggest the above-identified features of claim 1. Specifically, Applicant submits that there is no
teaching or suggestion of a shift and addition step of damping and shifting the orthogonal
transform coefficient in the direction of the frequency axis and adding additional information to

the original orthogonal transform coefficient, wherein the shift step and addition step generates the additional information by performing inverse orthogonal transform to a predetermined number of orthogonal transform coefficient, as recited in claim 1. Therefore, Applicant submits that independent claim 1 is patentable.

Independent claim 25 is similar in scope and is patentable for similar reasons.

Independent claim 50 recites, *inter alia*:

"A demodulation method for receiving an audio signal in which additional information generated by carrying out inverse orthogonal transform to a predetermined number of an orthogonal transform coefficient is embedded and demodulating the additional information, the method comprising:

a receiving step of receiving an audio signal in which additional information is embedded by damping and shifting in the direction of the frequency axis and adding to the audio signal on the original frequency axis; and

a demodulation step of demodulating the additional information on the basis of the polarity of the audio signal at each predetermined interval..." (emphasis added)

Applicant submits that nothing has been found in Tewfik that would teach or suggest the above-identified features of claim 50. Specifically, Applicant submits that there is no teaching or suggestion of additional information generated by carrying out inverse orthogonal transform to a predetermined number of an orthogonal transform coefficient is embedded and demodulating the additional information, as recited in claim 50. Therefore, Applicant submits that independent claim 50 is patentable.

Independent claim 60 is similar in scope and is patentable for similar reasons.

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IV. DEPENDENT CLAIMS

The other claims are dependent from one of the independent claims, discussed above, and are therefore believed patentable for at least the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

CONCLUSION

In the event the Examiner disagrees with any of statements appearing above with respect to the disclosure in the cited reference, it is respectfully requested that the Examiner specifically indicate those portions of the reference providing the basis for a contrary view.

Please charge any additional fees that may be needed, and credit any overpayment, to our Deposit Account No. 50-0320.

In view of the foregoing amendments and remarks, it is believed that all of the claims in this application are patentable and Applicant respectfully requests early passage to issue of the present application.

Respectfully submitted,

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